DETAILED ACTION

This office action is in response to the Amendment and Remarks filed 21 February 2008, in which claims 1-3, 7-12, 16-21 and 25-29 were presented for examination.

Response to Arguments

Applicant's arguments with respect to claims 1-3, 7-12, 16-21 and 25-29 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-3 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dougherty et al., US 7,061,246, in view of Howard, US 6,417,668.

(Claim 1) Dougherty describes a method, apparatus, and instructions for determining potential failure of a battery in a vehicle, comprising: determining one or more battery characteristics during a vehicle starting event (column 7, lines 52-55, column 3, lines 45-51); comparing the battery characteristics to stored reference parameters derived from one or more prior starting events (column 7, lines 60-65, column 8, lines 2-13), further comprising selecting the stored reference parameters based on one or more selection criteria, wherein the selection criteria comprise engine temperature, ambient temperature, battery type, and vehicle type (column 8, lines 18-32); and activating a battery alert indicator that indicates a potential battery failure if a selected battery characteristic exceeds a selected reference parameter (column 8, lines

9-13). Dougherty does not describe wherein the parameters are selected from a table of parameters. However, Howard teaches a method and apparatus for monitoring a battery of a vehicle, wherein the battery characteristics are compared to stored reference parameters from a table of parameters based on a selection criteria (column 7, lines 36-40). Both references suggest the battery characteristics are influenced by ambient temperatures, it would have been obvious to one of ordinary skill in the automotive art to substitute the calculation used by Dougherty for the look-up table used by Howard to adjust the range of acceptable battery characteristics for the temperature, as this is would not change the result.

(Claim 2) Dougherty further describes wherein the step of determining comprises evaluating a battery waveform to determine the battery characteristics (figure 5).

(Claim 3) Dougherty further describes wherein the battery characteristic comprises one or more of a battery dip voltage, engine crank speed indicator, and engine starting time indicator (figures 5 and 6, column 7, lines 52-55).

(Claim 9) Dougherty further describes comparing the battery characteristics to the stored reference parameters to determine a potential vehicle component failure (column 3, lines 8-15).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
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> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the

> applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 10-12, 18-21 and 27-29 are rejected under 35 U.S.C. 102(e) as being anticipated by Dougherty, US 7,061,246.

(Claim 10) Dougherty describes an apparatus for determining potential failure of a battery in a vehicle, comprising: logic to receive a battery signal during a vehicle starting event (element 30); detection logic that operates to determine one or more battery characteristics from the battery signal (column 7, lines 52-55, column 3, lines 45-51), and wherein the detection logic further comprises logic to compare the battery characteristics from one or more prior starting events to reference parameters derived from one or more prior starting events to determine whether the battery poses a potential risk of failure (column 7, lines 60-65, column 8, lines 2-13); and logic to activate one or more vehicle alert indicators if a selected battery characteristic exceeds a selected reference parameter (column 8, lines 9-13) including engine temperature, ambient temperature, battery type, and vehicle type (column 8, lines 18-32).

(Claim 11) Dougherty further describes logic to create a battery waveform from the battery signal and evaluate the battery waveform to determine the battery characteristics (figure 5).

(Claim 12) Dougherty further describes wherein the battery characteristic comprises one or more of a battery dip voltage, engine crank speed indicator, and engine starting time indicator (figures 5 and 6, column 7, lines 52-55).

(Claim 18) Dougherty further describes logic to compare the battery characteristics to the stored reference parameters to determine a potential vehicle component failure (column 3, lines 8-15).

(Claim 19) Dougherty describes an apparatus for determining a potential failure of a battery in a vehicle, comprising: means for determining one or more battery characteristics during a vehicle starting event (column 7, lines 52-55, column 3, lines 45-51); means for comparing the battery characteristics to stored reference parameters derived from one or more prior starting events (column 7, lines 60-65, column 8, lines 2-13); and means for activating a battery alert indicator that indicates a potential battery failure if a selected battery characteristic exceeds a selected reference parameter (column 8, lines 9-13).

(Claim 20) Dougherty further describes wherein the means for determining further comprises means for evaluating the battery waveform to determine the battery characteristics (figure 5).

(Claim 21) Dougherty further describes wherein the battery characteristic comprises one or more of a battery dip voltage, engine crank speed indicator, and engine starting time indicator (figures 5 and 6, column 7, lines 52-55).

(Claim 27) Dougherty further describes means for comparing the battery characteristics to the stored reference parameters to determine a potential vehicle component failure (column 3, lines 8-15).

(Claim 28) Dougherty describes a computer readable media comprising instructions, which when executed by a processor, operate to determine a potential

failure of a battery in a vehicle, the computer readable media comprising: instructions for determining one or more battery characteristics during a vehicle starting event (column 7, lines 52-55, column 3, lines 45-51); instructions for comparing the battery characteristics to stored reference parameters downloaded from a remote station or derived from one or more prior starting events (column 7, lines 60-65, column 8, lines 2-13); and instructions for activating a battery alert indicator that indicates a potential battery failure if a selected battery characteristic exceeds a selected reference parameter (column 8, lines 9-13).

(Claim 29) Dougherty further describes instructions for comparing the battery characteristics to the stored reference parameters to determine a potential vehicle component failure (column 3, lines 8-15).

Claim Rejections - 35 USC § 103

Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dougherty in view of Howard, and further in view of Arakawa et al, US 2004/0148083.

Dougherty in view of Howard describes a method of predicting a vehicle battery life; the monitoring device further includes a wireless device, but does not describe transmitting the characteristics using a wireless communication system. Arakawa describes a vehicle monitoring and management device, wherein vehicle characteristics, including battery characteristics, are determined and transmitted to a remote station (terminal device 11, [0125], [492]) using a wireless communication system (Internet 2), wherein the battery characteristic exceeds a reference parameter ([0492]), and a battery alert indicator indicates a potential battery failure ([0494]). It

would have been obvious to one of ordinary skill in the automotive art to combine the wireless capable invention of Dougherty, in view of Howard, with the teachings of Arakawa because, as Arakawa suggests, transmitting vehicle information to a terminal device would allow the vehicle owner to more easily monitor the condition of the vehicle, to more easily and accurately schedule and monitor maintenance a vehicle ([0041]).

Claim Rejections - 35 USC § 103

Claims 16, 17, 25 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dougherty in view of Arakawa et al, US 2004/0148083.

Dougherty describes an apparatus of predicting a vehicle battery life; the monitoring device further includes a wireless device, but does not describe transmitting the characteristics using a wireless communication system. Arakawa describes a vehicle monitoring and management device, wherein vehicle characteristics, including battery characteristics, are determined and transmitted to a remote station (terminal device 11, [0125], [492]) using a wireless communication system (Internet 2), wherein the battery characteristic exceeds a reference parameter ([0492]), and a battery alert indicator indicates a potential battery failure ([0494]). It would have been obvious to one of ordinary skill in the automotive art to combine the wireless capable invention of Dougherty with the teachings of Arakawa because, as Arakawa suggests, transmitting vehicle information to a terminal device would allow the vehicle owner to more easily monitor the condition of the vehicle, to more easily and accurately schedule and monitor maintenance a vehicle ([0041]).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHRISTINE M. BEHNCKE whose telephone number is (571)272-8103. The examiner can normally be reached on 8:30 am- 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas G. Black can be reached on (571) 272-6956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/C. M. B./
Examiner, Art Unit 3661

/Thomas G. Black/

Supervisory Patent Examiner, Art Unit 3661